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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,120	02/22/2002	James W. Forbes	5699-11-CON	9348

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EXAMINER

JULES, FRANTZ F

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/081,120

Applicant(s)

FORBES, JAMES W.

Examiner

Frantz F. Jules

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 13-21, 24, 28, 29, 32-34, 41-54 and 57-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 13-21, 24, 28, 29, 32-34, 41-45 and 72-82 is/are allowed.
- 6) ☒ Claim(s) 46-52, 54, 57-61, 63 and 64 is/are rejected.
- 7) ☒ Claim(s) 53, 62 and 65-71 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

This is a supplemental office action in correction to the Final Office action dated May 6, 2004 that was inadvertently mailed to the applicant. The following is the proper Final Rejection written on December 13, 2004 that is to address all of applicant's concern during the request made on 02/18/2005.

#### ***Claim Objections***

1. Claims 1-5 are objected to because of the following informalities:

In claim 1, line 6, the phrase "a first rail car truck" should be replaced by – "a first one of the rail car trucks" to improve the clarity of the claim language.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 46 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Chi (US 5,131,548).

Claims 46 and 58

Chi discloses an articulated rail road freight car having releasable couplers mounted at either end thereof said articulated rail road freight car being supported by a plurality of pivotally mounted railcar trucks as shown in fig. 1, each or said pivotally mounted trucks, having spaced apart axles, and said articulated rail road freight car having at least first

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and second rail car units connected at a cantilevered articulation (10), see fig. 13, through which vertical shear loads are passed between said first and second rail car units.

4. Claims 46, 50 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Ferris et al (US 4,191,107).

Ferris et al discloses an articulated rail road freight car having releasable couplers mounted at either end thereof said articulated rail road freight car being supported by a plurality of pivotally mounted railcar trucks as shown in figs. 6-10, each of said pivotally mounted trucks, having spaced apart axles, and said articulated rail road freight car having at least first and second rail car units connected at a cantilevered articulation (26), see figs. 6-10 through which vertical shear loads are passed between said first and second rail car units. The first and second rail car units comprising side bearing arms (27, 28).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 47-49, 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi in view of Saxton et al (US 5,743,192).

Claims 47-49, 51-52

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Chi teaches all the limitations of claims 47-49, 51-52 except for an articulated railroad freight car being an auto-rack car with intermediate bridge plates to allow vehicles to be conducted between the railcars. The general concept of providing bridge plates to allow vehicles to be conducted between the railcars of an auto-rack car constituting an articulated railroad freight car is well known in the art as illustrated by Saxton et al which discloses the use of an auto-rack car with intermediate bridge plates to allow vehicles to be conducted between the railcars in an articulated freight car, see fig. 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify

Chi to include the use of an auto-rack car with intermediate bridge plates to allow vehicles to be conducted between the railcars in his advantageous articulated railroad freight car as taught by Saxton et al in order to provide a bridge between two adjacent railcars thereby eliminating the need to uncouple the freight car for loading and unloading purposes, maximize the use of the freight car.

7. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chi in view of Biegel (US 4,826,259).

Claim 54

Regarding using a freight car which is a well car unit as recited in claim 54, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chi to include the use a freight car which is a well car unit in his advantageous system as taught by Biegel, as freight car design is a common and everyday occurrence throughout the articulated railroad car design art and the specific use of a freight car which is a well car unit would have been an obvious matter of design preference

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depending upon such factors as the weight of the object to be carried by the railroad car, the yield strength of the side walls material; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the side walls which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

8. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chi in view of Bock et al (US 2,865,306).

Claim 57

Chi discloses an articulated railroad freight car comprising two-truck middle and end unit connected at a cantilevered articulation.

Chi discloses all of the features as listed above but does not disclose an articulated railroad freight car comprising a three pack railroad car having a two truck middle unit and a pair of single truck end units. The general concept of providing a three pack railroad car having a two truck middle unit and a pair of single truck end units falls within the range of common knowledge and is well known in the art as illustrated by Bock et al which discloses in col 1, lines 20-53 the teaching of designing three-car units with combination of single axle and double axle. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chi to incorporate a pair of single truck end units connected at a cantilevered articulation at each end of his two-truck middle unit in his advantageous articulated railroad freight car as taught by Bock et al in order to reduce the overall weight of the articulated railroad car.

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9. Claims 59-61, 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi and Bock et al as applied to claim 57 above, and further in view of Saxton et al (US 5,743,192).

Claims 59-61, 63-64

Chi teaches all the limitations of claims 59-61, 63-64 except for an articulated railroad freight car being an auto-rack car with intermediate bridge plates to allow vehicles to be conducted between the railcars. The general concept of providing bridge plates to allow vehicles to be conducted between the railcars of an auto-rack car constituting an articulated railroad freight car is well known in the art as illustrated by Saxton et al which discloses the use of an auto-rack car with intermediate bridge plates to allow vehicles to be conducted between the railcars in an articulated freight car, see fig. 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify

Chi to include the use of an auto-rack car with intermediate bridge plates to allow vehicles to be conducted between the railcars in his advantageous articulated railroad freight car as taught by Saxton et al in order to provide a bridge between two adjacent railcars thereby eliminating the need to uncouple the freight car for loading and unloading purposes, maximize the use of the freight car.

***Allowable Subject Matter***

10. Claims 53, 62, 65-71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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11. Claims 1-7, 13-21, 24, 28-29, 32-34, 41-45, 72-83 stand allowable. None of the references of record suggests an articulated railroad car having an articulation connection operable to pass vertical shear load from second rail car unit to first rail car unit, wherein a first rail car truck is located closer to the articulation connection than any other of the rail car trucks in the manner defined in the instant claims 1, 6, 28, 41, and 72.

***Response to Arguments***

12. Applicant's arguments filed 08/03/2004 have been fully considered but they are not persuasive.

**A. Summary of applicant's argument**

In the amendment, applicant traversed the rejection of claims 46-49, 51-52, 54, 57, 59-61, 63-64 for the following reasons:

1. The reference cited in the anticipation rejection, Chi, fails to meet the limitations of the releasable coupler being cantilevered as a rotational connection is shown in fig. 10. Secondly, this connection is not capable of passing a shear load between the adjacent railcar units. Thirdly, no articulated railroad car is disclosed.
2. There is no motivation, suggestion or teaching to combine:
  - a) the Chi reference with Sexton et al since the status of shared truck of Saxton et al is not addressed by the examiner;
  - b) the Chi reference with the Beigel reference; The links or hooks uses in the Biegel reference cannot be uncoupled by a railyard personnel and should not be combined with the coupler of the Chi reference.



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c) the Chi reference with the Bock referenc; The Chi reference neither discloses a “two-truck middle unit” nor does it disclose a cantilevered articulation. How can a disclosure that shows and describes, at most, a pair of draw-bar connected units show a “middle” unit? How is it possible?”.

**B. Response to applicant’s argument**

1. In response to applicant’s argument of the failure of the Chi’s reference to disclose a releasable coupler which is not cantilevered, it is factual and arcuate that fig. 13 of the Chi reference shows releasable coupler which meets the limitation of a cantilevered articulation. By definition, a cantilevered beam is one that extends from an attachment point to an attachment free end. Once the railroad car units are decoupled, the releasable couplers remains attached to their respective railroad car ends in a cantilevered manner. Claim 46 requires that the first and the second railroad car units be connected at a cantilevered articulation meaning that their free ends or ends opposite to the railroad cars are connected. This does not preclude the use of a rotational articulation connection as argued by the applicant. As a matter of fact any articulation coupling between railroad cars must allow for rotation to take place in the horizontal plane in order for the railroad car units to negotiate curve.

In response to applicant’s argument that the Chi’s reference does not have a connection which allow passing of vertical shear, the following cases of vertical shear load should be noted:

a) Static vertical shear loads exist in each of the coupler units due to the weight of the coupler units itself. Typically, railroad car couplers are heavy weight cantilevered member with an average weight of more that five hundred pounds. They are mounted with a relative vertical movement of about 5 degrees or less and after a short displacement, the coupler(s) must come to

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a stop, as seen in fig. 3 or 10. Contrary to applicant's contention, these vertical shear loads are passed between the first and the second railroad car units when they are coupled together. This is explained in the Chi reference, and in col. 3, lines 66-68 the specification which states that 'the elastomeric pad 18 also absorbs vertical angling forces during vertical angling...".

b) Dynamic vertical shear loads resulting from the weight of vehicle and other factors such as cyclic loads from uneven road conditions occur during operation of the vehicle. These loads reach their peak values when the railcar units are negotiating a curve since the vehicle body has to tilt to a great extent. The rotation or tilting of the vehicle body will normally result in loadings having vertical shear components and these vertical shear loads will be transmitted to the couplers of each the first and the second rail car units. The releasable couplers are pressed against buffing member 18 which eliminate any slack in the vehicle bodies while normally serving as absorbing members for vertical angling forces present in the couplers as disclosed in col 5, lines 17-24. There is nothing in the figures of the Chi reference or in the disclosure that suggests that once a vertical shear load is applied to the releasable couplers, the couplers will fall apart instead of transmitting that load to the adjacent railroad cars. It is factual and accurate that the elastomeric pad member 18 which absorb the vertical shear loads belong to the first and the second railcar units as shown in the drawings.

It should also be noticed that articulated releasable couplers are normally used to connect two railroad cars. In an articulated railroad car, it is factual that the use of multiple railroad car units are made. Applicant's argument that the Chi reference does not disclose an articulated railroad car is not understood as the use of couplers between two or more railroad constitute an articulated railroad car or vice versa.

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2a. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, an ordinarily skilled artisan would have been motivated to incorporate the teaching of railroad cars comprising intermediate bridge plate to allow vehicle to be conducted between the railcars and having auto-rack construction into Chi in order to achieve among others the benefit of maximizing the use of the railroad cars. Also, applicants argument regarding the fact that the status of shared truck of Saxton et al is not addressed by the examiner is irrelevant since the Saxton et al reference has not been used as the base reference in the combination rejection. The Saxton et al reference was used as a teaching reference and not as a base reference.

2b. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, an ordinarily skilled artisan would have been motivated to incorporate the teaching of a freight car which is a well car unit into Chi in order to achieve among others the benefit of reducing the weight of the railroad cars and load heavier containers on the railcars. Also,

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applicant's argument regarding the lack of reasoning of the rejection since "The links or hooks used in the Biegel reference cannot be uncoupled by a railyard personnel and should not be combined with the coupler of the Chi reference" is irrelevant since the combination rejection is not combining "the links or hooks used in the Biegel reference" into the Chi reference as claimed by the applicant. The Chi reference is used as a teaching reference and not as a base reference.

2c. Applicant's contentions regarding the combination rejection of the Chi reference over the Bock et al reference is not understood. Applicant stipulates that "Chi neither discloses a "two-truck middle unit" nor does it disclose a cantilevered articulation. The argument regarding the cantilevered articulation has been addressed above. The drawings of the Chi reference and in particular fig. 1 shows a "two truck middle unit". One can easily conclude that the two truck units shown in fig. 1 constitute a middle unit since they are typically of freight construction or used to carry freight and not of a locomotive engine type of design. As for the combination of the references, the Bock reference discloses the teaching of a three pack railroad car comprising a two-truck middle unit and a pair of single end truck units. This establishes a prima facie case of obviousness to one of ordinary skill in the art who would adapt the teaching of the three pack railroad car comprising a two-truck middle unit and a pair of single end truck units into the articulated railroad freight car of Chi to achieve among others the benefits of reducing the weight of the end units and subsequently achieve fuel consumption in the articulated railroad car.

It should also be noted that the Chi reference discloses an articulated coupler device for railroad cars with no specific limitations on any particular type of railroad cars that should be used with the coupling system. Applicant's argument that one of ordinary skill in the art would not use the

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articulated coupler of the Chi reference in different types of services such as in the vehicle carrying freight car of Saxton et al, the well car of Biegel, the three pack railroad car of Block et al, or vice versa is not understood. The obviousness rejection simply states that the vehicle carrying freight car of Saxton et al, the well car of Biegel, or the three pack railroad car of Block et al establish a prima facie case of obviousness to one of ordinary skill in the art which would be motivated to make use of the articulated railroad cars of the Chi reference into the various applications as disclosed by the vehicle carrying freight car of Saxton et al, the well car of Biegel, the three pack railroad car of Block et al in order to take advantage of the particular application at hand.

### *Conclusion*

**13. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

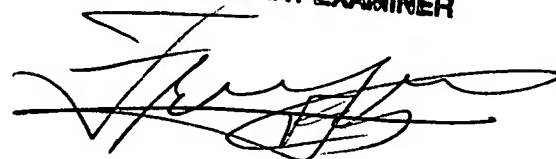
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Frantz F. Jules  
Examiner  
Art Unit 3617

FFJ

December 13, 2004

FRANTZ F. JULES  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Frantz F. Jules', is written over a horizontal line. The signature is stylized with a large initial 'F' and a long horizontal stroke.